

FIG. 1

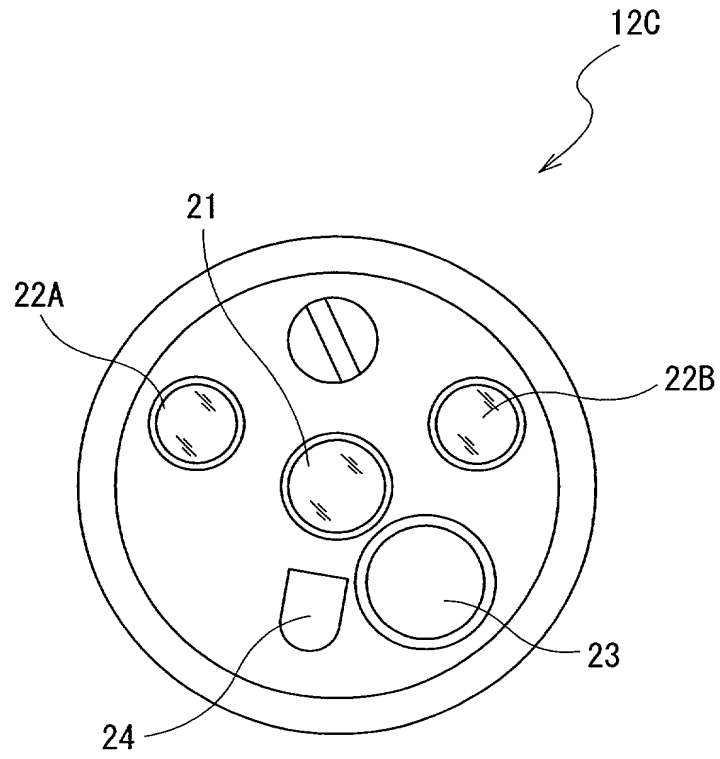


FIG. 2

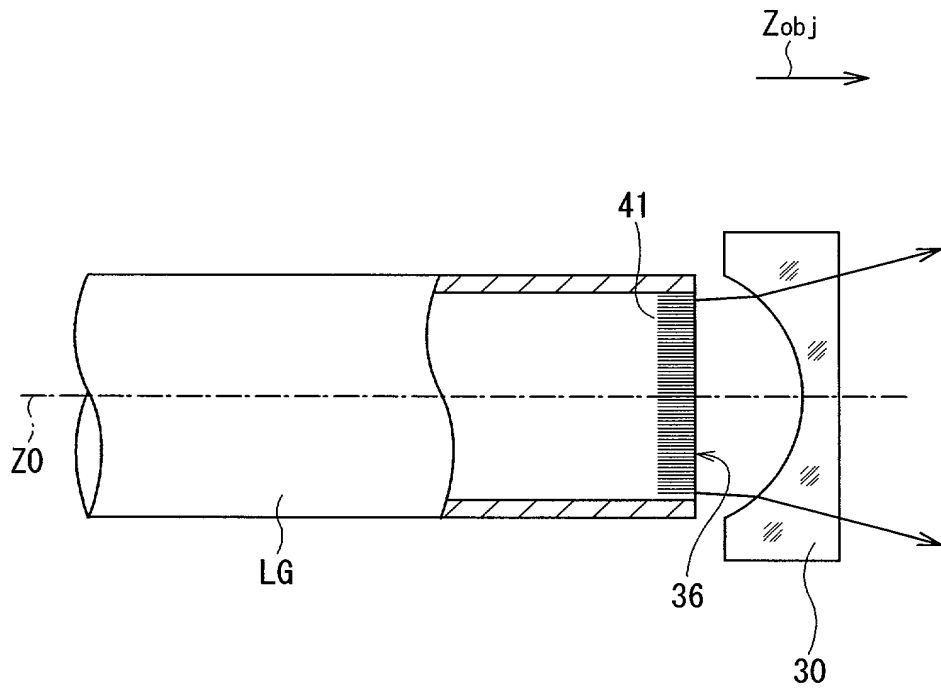


FIG. 3

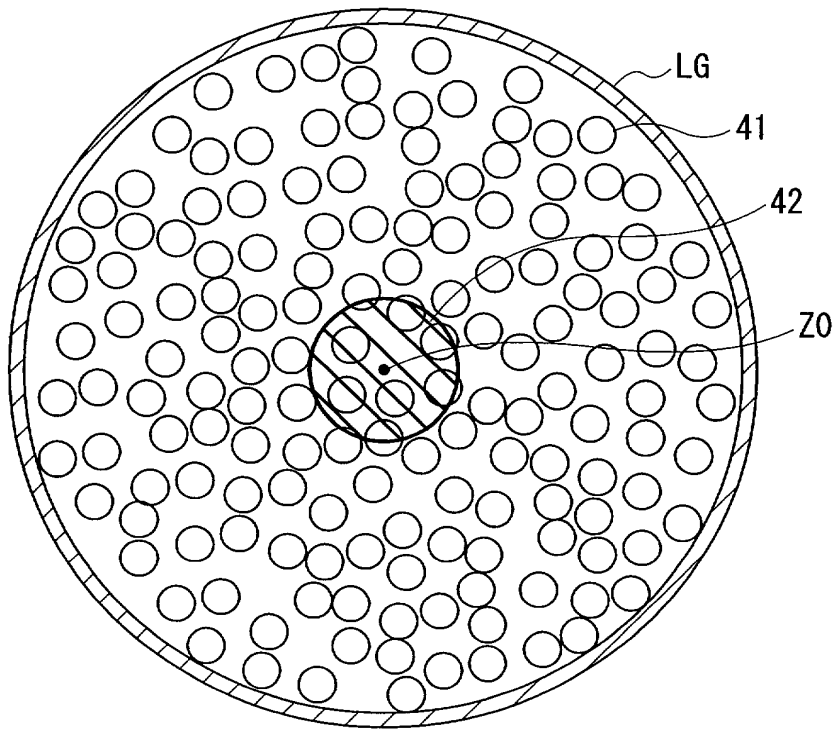


FIG. 4

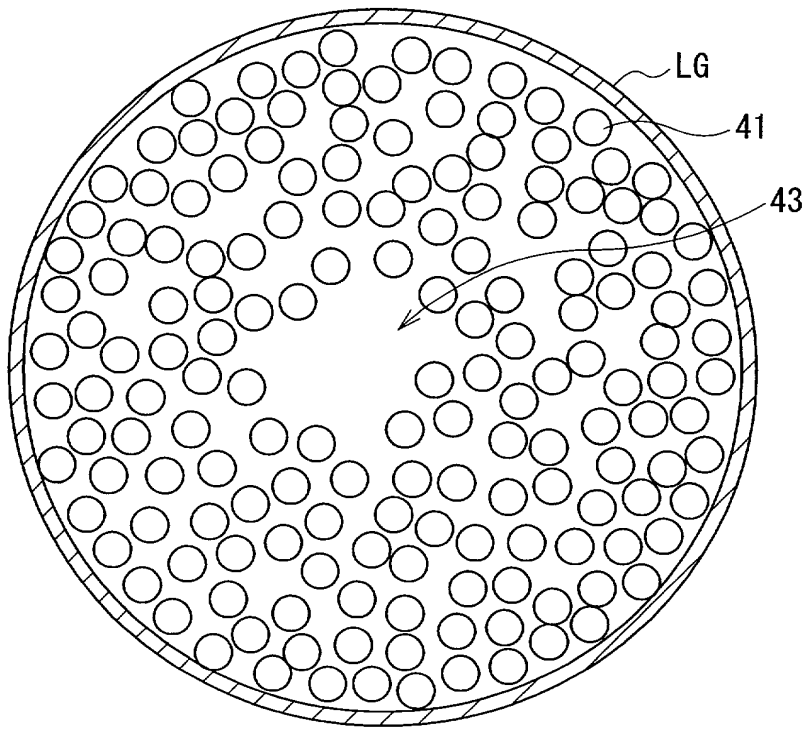


FIG. 5

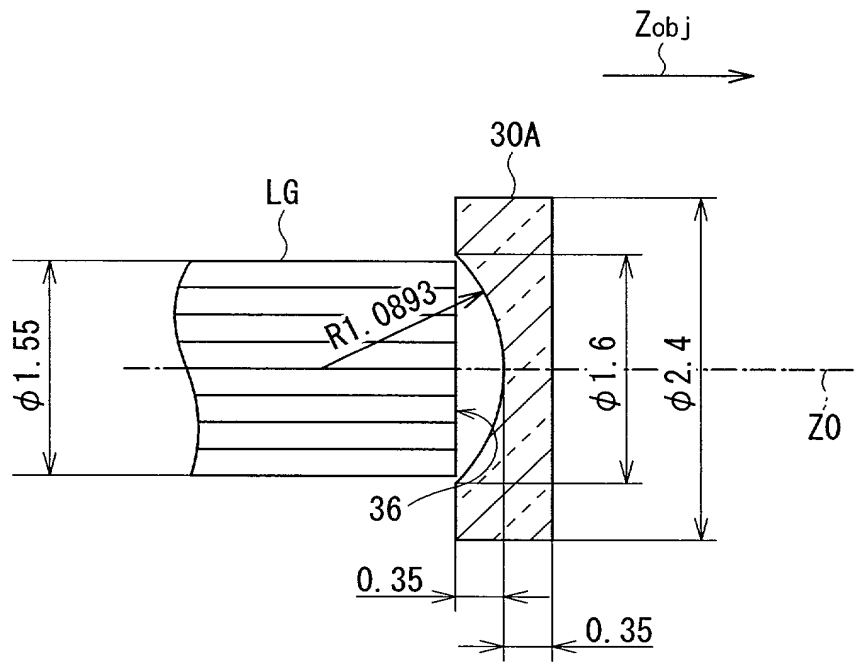


FIG. 6

ANGLE [°]	INCIDENCE (NA=0.56) [%]	COMPARATIVE EXAMPLE 1A (WITH NO MASK) [%]	EXAMPLE 1-1 (WITH A MASK, DIAMETER OF THE MASK : 0.4mm [%])	COMPARATIVE EXAMPLE 1B (SMALL CORE DIAMETER, CORE DIAMETER : 1.35mm [%])
0.00	100.00	100.00	91.74	100.00
5.00	91.84	98.16	93.73	96.98
10.00	70.50	95.40	99.49	91.73
15.00	38.57	89.38	100.00	84.91
20.00	19.10	83.61	97.86	77.87
25.00	8.54	76.90	92.60	67.74
30.00	3.60	69.33	86.43	56.06
35.00	1.57	60.53	76.93	43.67
40.00	0.70	49.18	63.33	31.87
45.00	0.34	38.37	48.81	21.72
50.00	0.20	27.26	34.73	13.87
55.00	0.08	18.31	23.42	8.48
60.00	0.00	11.63	15.11	5.20
65.00	0.00	7.18	9.16	3.19
70.00	0.00	4.41	5.60	1.93
75.00	0.00	2.49	3.10	1.08
80.00	0.00	1.15	1.41	0.49
85.00	0.00	0.47	0.57	0.20
90.00	0.00	0.00	0.00	0.00

FIG. 7

EXAMPLE 1-1  
(NA=0.56)

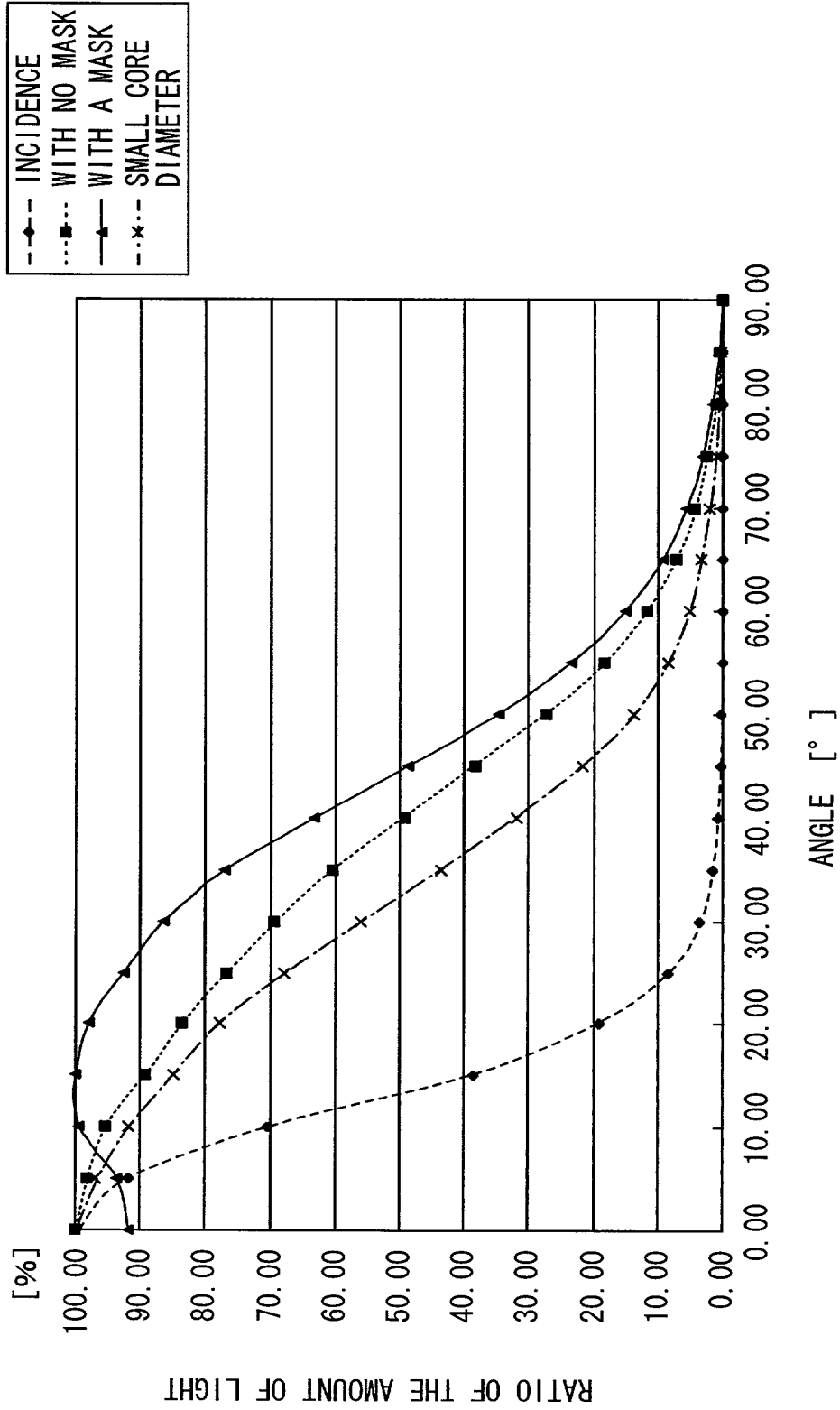


FIG. 8



ANGLE [°]	INCIDENCE (NA=0.76) [%]	COMPARATIVE EXAMPLE 1C (WITH NO MASK) [%]	EXAMPLE 1-2 (WITH A MASK, DIAMETER OF THE MASK : 0.4mm [%])	COMPARATIVE EXAMPLE 1D (SMALL CORE DIAMETER, CORE DIAMETER : 1.35mm [%])
0.00	100.00	100.00	100.00	100.00
5.00	97.93	98.38	99.82	99.04
10.00	95.86	92.92	97.62	92.97
15.00	86.09	90.22	94.11	88.58
20.00	76.96	86.52	89.54	82.37
25.00	64.35	81.79	84.08	75.28
30.00	49.39	74.26	77.42	66.41
35.00	35.05	65.99	69.62	57.37
40.00	20.00	57.24	60.22	47.83
45.00	7.02	48.27	51.34	38.99
50.00	2.07	39.72	41.76	30.87
55.00	0.63	31.63	33.36	23.97
60.00	0.25	24.21	25.73	18.25
65.00	0.13	18.06	19.65	13.47
70.00	0.80	13.21	14.50	9.62
75.00	0.40	8.53	9.56	6.05
80.00	0.00	4.32	4.76	2.92
85.00	0.00	1.81	2.09	1.28
90.00	0.00	0.00	0.00	0.00

FIG. 9

EXAMPLE 1-2  
(NA=0.76)

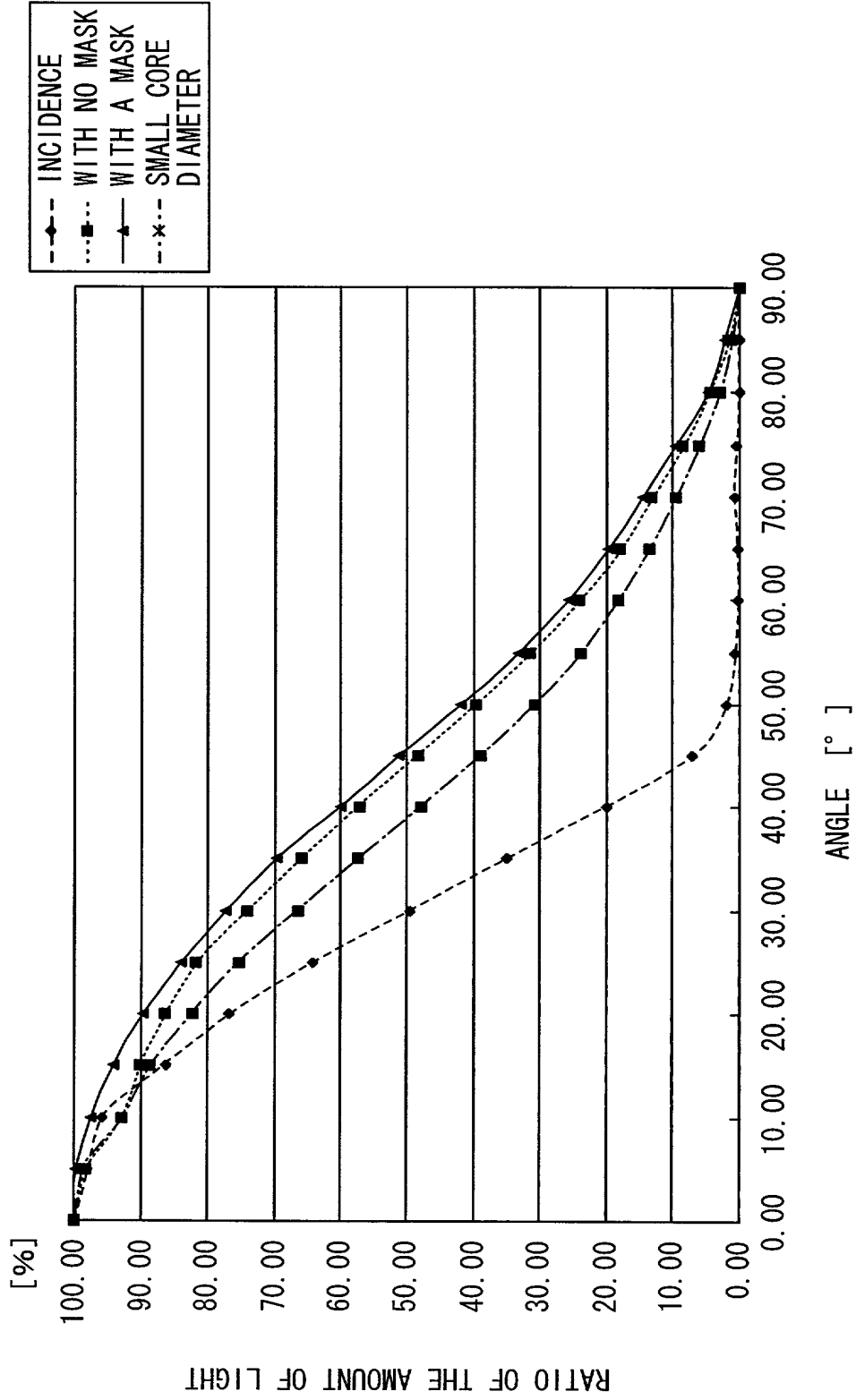


FIG.10

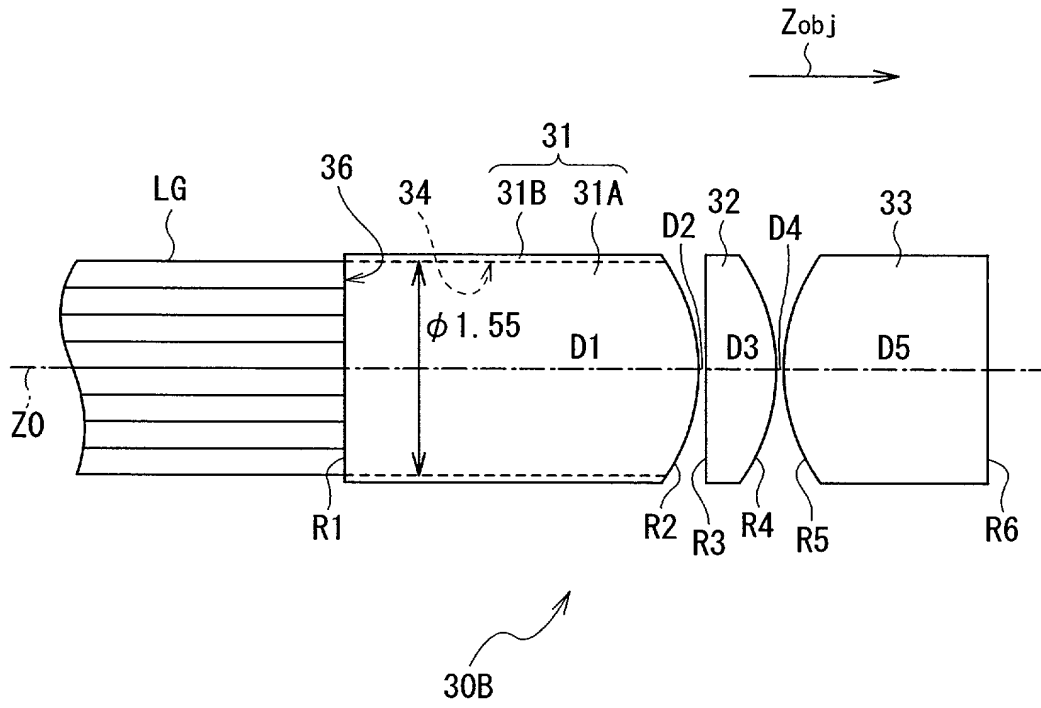


FIG. 11

EXAMPLE 2 (CORE DIAMETER $\phi=1.55$ )			
Si (SURFACE NUMBER)	Ri (RADIUS OF CURVATURE)	Di (SURFACE SEPARATION)	Ni (REFRACTIVE INDEX)
1	0	2.4	1.6 (CORE) 1.52 (CLADDING)
2	-1.426	0.1	
3	0	0.6	1.883
4	-1.538	0.1	
5	1.538	1.5	1.883
6	0		

FIG. 12

ANGLE [°]	INCIDENCE (NA=0.56) [%]	COMPARATIVE EXAMPLE 2A (WITH NO MASK) [%]	EXAMPLE 2-1 (WITH A MASK, DIAMETER OF THE MASK : 0.4mm [%])	COMPARATIVE EXAMPLE 2B (SMALL CORE DIAMETER, CORE DIAMETER : 1.35mm [%])
0.00	100.00	100.00	75.13	95.11
5.00	91.84	97.49	74.61	95.40
10.00	70.50	90.90	82.93	100.00
15.00	38.57	90.03	87.60	96.73
20.00	19.10	90.60	94.42	92.90
25.00	8.54	86.95	98.31	87.91
30.00	3.60	83.48	100.00	82.03
35.00	1.57	80.01	98.83	74.60
40.00	0.70	75.57	97.01	66.85
45.00	0.34	70.90	92.47	59.89
50.00	0.20	64.64	86.18	51.15
55.00	0.08	57.88	76.41	40.75
60.00	0.00	48.79	64.23	30.38
65.00	0.00	38.94	50.37	20.45
70.00	0.00	27.75	35.83	12.56
75.00	0.00	16.20	21.58	6.47
80.00	0.00	6.72	9.60	2.78
85.00	0.00	2.03	3.58	1.10
90.00	0.00	0.00	0.00	0.00

FIG. 13

EXAMPLE 2-1  
(NA=0.56)

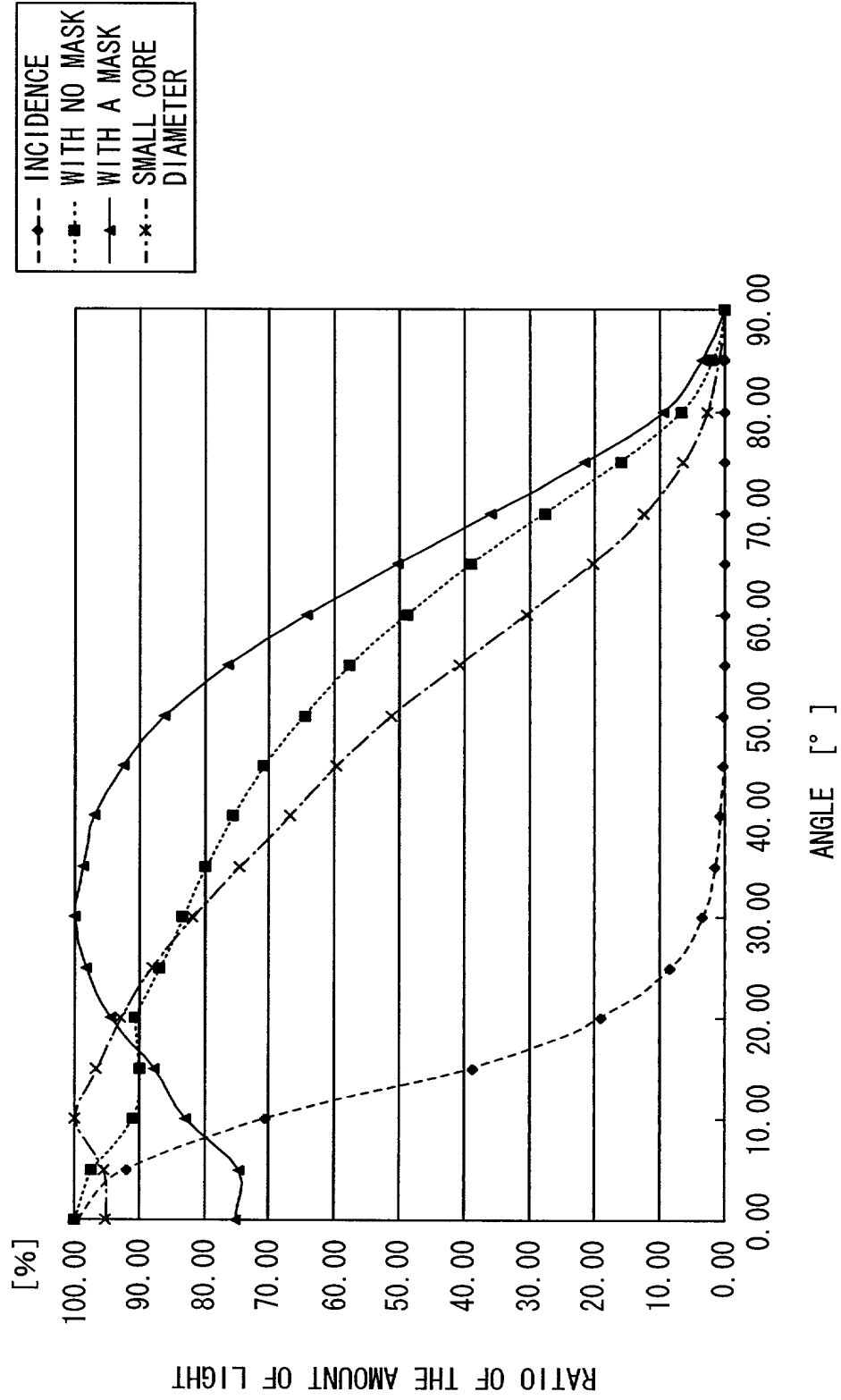


FIG. 14

ANGLE [°]	INCIDENCE (NA=0.76) [%]	COMPARATIVE EXAMPLE 2C (WITH NO MASK) [%]	EXAMPLE 2-2 (WITH A MASK, DIAMETER OF THE MASK : 0.4mm [%])	COMPARATIVE EXAMPLE 2D SMALL CORE DIAMETER, CORE DIAMETER : 1.35mm [%]
0.00	100.00	89.31	94.23	100.00
5.00	97.93	90.68	93.50	99.73
10.00	95.86	94.73	93.62	98.18
15.00	86.09	96.55	94.92	96.92
20.00	76.96	98.00	97.74	95.66
25.00	64.35	98.79	98.22	95.47
30.00	49.39	100.00	100.00	97.33
35.00	35.05	97.27	98.95	95.70
40.00	20.00	90.95	94.14	88.52
45.00	7.02	79.05	83.21	73.21
50.00	2.07	64.99	69.69	56.09
55.00	0.63	50.98	55.09	39.01
60.00	0.25	38.10	41.55	25.01
65.00	0.13	26.68	28.68	14.55
70.00	0.80	16.42	17.89	8.42
75.00	0.40	8.28	9.11	4.32
80.00	0.00	3.13	3.54	1.80
85.00	0.00	0.96	1.16	0.69
90.00	0.00	0.00	0.00	0.00

FIG. 15

EXAMPLE 2-2  
(NA=0.76)

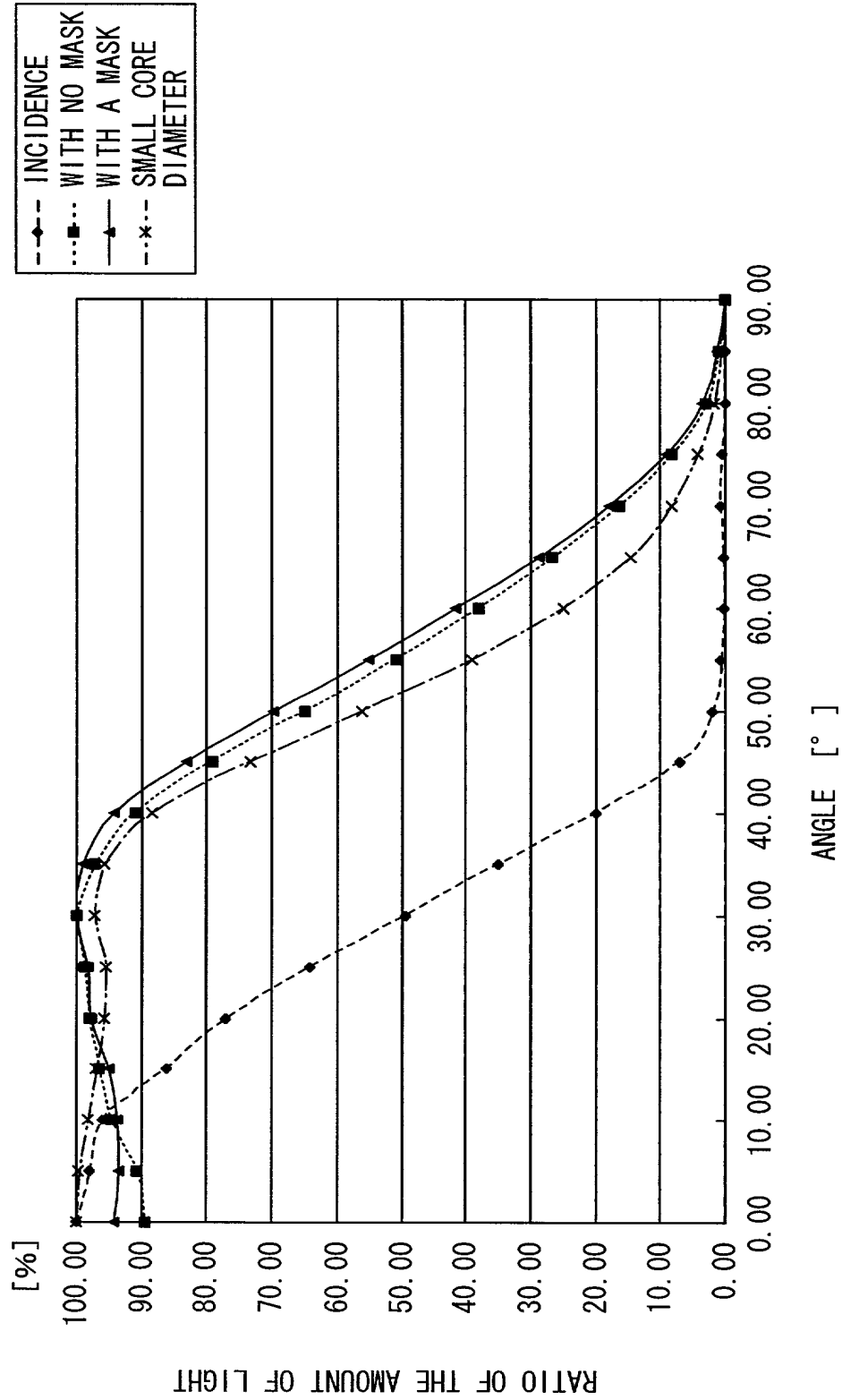


FIG. 16